

Serial No.: 09/472,534  
Group Art Unit: 2666  
Examiner: Melanie Jagannathan

Complete Listing of the Claims

1-15. (Previously Canceled).

16 (Previously Added). A method for line protection in a transmission switch, comprising:

receiving one or more working channels and at least one protection channel at an input interface to the transmission switch;

performing a selection at the input interface between the working and protection channels in response to a signal quality of the working and protection channels; and

switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels.

17 (Previously Added). The method of Claim 16, wherein a number  $n$  of working channels and one protection channel is received and wherein the step of performing a selection comprises selecting all of the number  $n$  of working channels or selecting the one protection channel and  $n-1$  of the working channels and wherein a number  $n$  of pre-determined connections are maintained in the matrix without disruption.

18 (Previously Added). The method of claim 17, further comprising the step of providing a protection switch request to an originator of the  $n$  number of working channels and protection channel to switch transmission of one of the number  $n$  of working channels to the protection channel.

19 (Previously Added). The method of Claim 18, wherein the network protection is a 1:n linear automatic protection scheme.

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20 (Previously Added). The method of Claim 16, wherein one working channel and one protection channel is received and wherein the step of performing a selection comprises selecting between the working channel and the protection channel and wherein one predetermined connection through the matrix is maintained without disruption.

21 (Previously Added). The method of claim 20, wherein a common data signal is received on both the one working channel and the one protection channel.

22 (Previously Added). The method of Claim 21, wherein the network protection is a 1:1 linear automatic protection scheme.

23 (Previously Added). A method for line protection in a transmission switch, comprising:

receiving at least one inbound working channel and at least one inbound protection channel to the transmission switch;

providing at least one outbound working channel and at least one outbound protection channel;

switching the inbound working channel and the inbound protection channel through matrix connections in a switching matrix to outbound working channel and outbound protection channel; and

in response to a line failure, routing information on inbound working channel to outbound protection channel and routing information on inbound protection channel to outbound working channel at an input/output interface, wherein routing of the working and protection channels at the input/output interface prevents information from being provided to the matrix such that the matrix connections are not disrupted.

24 (Previously Added). The method of Claim 23, wherein the network protection is a bidirectional line switched ring protection scheme implementing a ring switch.

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25 (Previously Added). An apparatus for providing network protection at a cross-connect switch, comprising:

an input interface that receives at least one inbound working channel and an inbound protection channel, wherein the input interface includes a selector to select between the inbound working channel and the protection channel in response to a signal quality of the working and protection channels; and

a switching matrix that switches the selected one of the inbound working and protection channels over a pre-determined matrix connection, wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel.

26 (Previously Added). The apparatus of Claim 25, further comprising:

an output interface that receives the selected one of the inbound working and protection channels from the switching matrix, the outbound interface operable to broadcast the selected one of the inbound working and protection channels onto an outbound working channel and an outbound protection channel.